

Predicting Amputation using Local Circulating Mononuclear Progenitor Cells in Angioplasty-treated Patients with Critical Limb Ischemia

Juan Antonio Suárez-Cuenca¹, Eduardo Vera-Gómez¹, Alejandro Hernández-Patricio¹, Atzín Suá Ruíz-Hernández¹, Juan Ariel Gutiérrez-Buendía¹, Carlos Ramiro Zamora-Alemán¹, Alberto Melchor-López¹, Yasser Alberto Rizo-García², Oscar Antonio Lomán-Zúñiga², Ignacio Escotto-Sánchez², Juan Miguel Rodríguez-Trejo², Rebeca Pérez-Cabeza de Vaca³, Mario Antonio Téllez-González³, Paul Mondragón-Terán³

¹Experimental Metabolism and Clinical Research Laboratory, Clinical Research Department, Division of Biomedical Research, Centro Médico Nacional 20 de Noviembre, ISSSTE ²Vascular Surgery and Angiology Department, Centro Médico Nacional 20 de Noviembre, ISSSTE ³Regenerative Medicine and Tissue Engineering Laboratory; Coordination of Research, Centro Médico Nacional 20 de Noviembre, ISSSTE

Corresponding Author

Juan Antonio Suárez-Cuenca
suarej05@gmail.com

Citation

Suárez-Cuenca, J.A., Vera-Gómez, E., Hernández-Patricio, A., Ruíz-Hernández, A.S., Gutiérrez-Buendía, J.A., Zamora-Alemán, C.R., Melchor-López, A., Rizo-García, Y.A., Lomán-Zúñiga, O.A., Escotto-Sánchez, I., Rodríguez-Trejo, J.M., Pérez-Cabeza de Vaca, R., Téllez-González, M.A., Mondragón-Terán, P. Predicting Amputation using Local Circulating Mononuclear Progenitor Cells in Angioplasty-treated Patients with Critical Limb Ischemia. *J. Vis. Exp.* (), e61503, doi:10.3791/61503 (2020).

Date Published

September 22, 2020

DOI

10.3791/61503

URL

jove.com/video/61503

Materials

Name	Company	Catalog Number	Comments
BSA	Roche	10735086001	Bovine Serum Albumin (BSA) as a buffering agent, stabilizer, standard and for blending.
Calibration Beads	Miltenyi Biotec / MACS	#130-093-607	MACQuant calibration beads are supplied in aqueous solution containing 0.05% sodium azide. 3.5 ml for up to 100 tests
CD133/1 (AC133)-PE	Miltenyi Biotec / MACS	#130-080-801	Antibody conjugated to R-Phycoerythrin in PBS/EDTA buffer
CD184 (CXCR4)-PE-VIO770	Miltenyi Biotec / MACS	#130-103-798	Monoclonal, Isotype recombinant human IgG1, conjugated
CD309 (VEGFR-2/KDR)-APC	Miltenyi Biotec / MACS	#130-093-601	Antibody conjugated to R-Phycoerythrin in PBS/EDTA buffer
CD34-FITC	Miltenyi Biotec / MACS	#130-081-001	The monoclonal antibody clone AC136 detects a class III epitope of the CD34
CD45- VioBlue	Miltenyi Biotec / MACS	#130-092-880	Monoclonal CD45 Antibody, human conjugated
Conical Tubes	Thermo SCIENTIFIC	#339651	15ml conical centrifuge tubes
Cytometry Tubes	FALCON Corning Brand	#352052	5 mL Polystyrene Round-Bottom Tube. 12x75 style. Sterile.
EDTA	BIO-RAD	#161-0729	Heavy metals, (as Pb) <10ppm, Fe<0.01%, As<1ppm, Insolubles<0.005%

Improved Neubauer	Without brand	Without catalog number	Hemocytometer for cell counting. (range 0.1000mm, 0.0025mm ²)
K2 EDTA Blood Collection Tubes	BD Vacutainer	#367863	Lilac plastic vacutainer tube (K2E) 10.8mg, 6 mL.
Lymphoprep	Stemcell Technologies	01-63-12-002-A	Sterile and checked on the presence of endotoxins. Density: 1.077±0.001g/mL
Paraformaldehyde	SIGMA-ALDRICH	#SZBF0920V	Fixation of biological samples, (powder, 95%)
Pipette Transfer 1,3mL	CRM Globe	PF1016, PF1015	The transfer pipette is a tool that facilitates liquid transfer with greater accuracy.
Test Tubes	KIMBLE CHASE	45060 13100	Heat-resistant test tubes. SIZE/CAP 13 x 100 mm